openreach

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Suppliers' Information Note

For The Openreach Network

OPENREACH PUBLIC SWITCHED TELEPHONE NETWORK (PSTN): NETWORK TONES AND ANNOUNCEMENTS & WITHDRAWAL NOTIFICATION

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Scope

This document describes the supervisory tones generated by the Openreach network and gives general information about Openreach network announcements. Tones and announcements encountered on the Openreach network can originate from other networks and from customer premises equipment. These tones and announcements are not covered by this Suppliers' Information Note (SIN).

In cases where the Network Termination Equipment (NTE) is mains powered, the conditions quoted in this SIN apply when mains power is being applied to the NTE. The conditions applicable when mains power is removed from the NTE may be different to those quoted in this SIN.

Much of the information contained in this SIN has been published previously in documents such as British Standards.

Changes to the network that affect the correct working of approved terminal equipment will be published in Openreach SINs, available from https://www.openreach.co.uk/orpg/home/helpandsupport/sins/sins.do

If the changes impact on the content of this document then it will be updated.

This document was first published as BT Technical Interface Guide 8.

Openreach will withdraw this PSTN network tones and announcements SIN by the end of January 2027 in line with the closure of the BT UK PSTN.

Network Supervisory Tones

The supervisory tones that will be returned from the Openreach network are listed in Table 1.

Table 1. Network Supervisory Tones

Network Generated Tone	**Significance**	**Range of levels received at BT network interface**	**Tone Composition (± 5% except where stated)**	**Cadence (± 10 % except where stated)**
Proceed Indication *(Dial Tone)*	Proceed to dial indication	0 dBm to -27 dBm. Each tone separately 3 dB lower	350 Hz plus 440 Hz	Both tones continuous
Special Proceed Indication *(Interrupted Dial Tone)*	Proceed to dial indication when certain supplementary services have been invoked	0 dBm to -27 dBm. Each tone separately 3 dB lower	350 Hz plus 440 Hz	350 Hz tone - 0.75 s ON, 0.75 s OFF plus 440 Hz tone - continuous or both tones pulsed at the above rate.
Number Busy Tone *(Engaged Tone)*	Called Customer's line in use	0 dBm to -37 dBm.	400 Hz	0.375 s ON, 0.375 s OFF.
Congestion Tone *(Path Engaged Tone)*	Routeing equipment is temporarily unavailable	-6 dBm to -43 dBm. 0 dBm to -37 dBm.	400 Hz	0.4 s ON, 0.35 s OFF, 0.225 s ON, 0.525 s OFF. Note: The shorter tone is 6 dBm higher than the longer tone.
Special Congestion Tone	Precedes some congestion announcements	0 dBm to -37 dBm.	400 Hz 1004 Hz	400 Hz tone - 0.2 s 1004 Hz tone - 0.3 s
Connection Not Admitted Indication *(Number Unobtainable Tone)*	Call cannot be routed to requested number	0 dBm to -37 dBm.	400 Hz	Continuous

Network Generated Tone	Significance	Range of levels received at BT network interface	Tone Composition (± 5% except where stated)	Cadence (± 10 % except where stated)
Awaiting Answer Indication *(Ringing Tone)*	Implies that called Customers line is being rung	0 dBm to -37 dBm.	400 Hz + 450 Hz	0.4 s ON, 0.2 s OFF, 0.4 s ON, 2.0 s OFF. or 0.35 s ON, 0.22 s OFF. Then start at any point in 0.4 s ON, 0.2 s OFF, 0.4 s ON, 2 s OFF. Note: Cadence does not necessarily coincide with call arrival indication cadence.
Special Information Tone	Precedes certain announcements	0 dBm to -37 dBm.	950 Hz ± 50 Hz 1400 Hz ± 50 Hz 1800 Hz ± 50 Hz	Each frequency is sent for 330 ms ± 70 ms in the order given and with silent periods of up to 30 ms between adjacent signals.
Call Waiting Indication	Indicates a second incoming call	0 dBm to -37 dBm.	400 Hz	0.1 s ON, 2 - 5 s OFF.
Special Call Waiting Indication	Indicates a special second incoming call	0 dBm to -37 dBm.	400 Hz	0.03s ON, 0.01s OFF, 0.03s ON, 6.0s OFF.
Confirmation Tone	Used in some exchanges in place of an announcement to indicate that an interrogated service is active	0 dBm to –37 dBm.	1400 Hz	20 s followed by silence.

Network Generated Tone	Significance	Range of levels received at BT network interface	Tone Composition (± 5% except where stated)	Cadence (± 10 % except where stated)
Switching Tone	Used in some exchanges in place of an announcement to indicate that an interrogated service is not active	0 dBm to –37 dBm.	400 Hz	0.2 s ON, 0.4 s OFF, 2.0 s ON, 0.4 s OFF.

3 Network Announcements

A variety of announcements may be returned to a user during call set-up and clear down. Other announcements may be returned to the user during set-up, operation and cancellation of supplementary services and services other than basic access to the Public Switched Telephone Network (PSTN) (e.g. , Choose to Divert, , 0800 and 098xx)

Some announcements will be preceded by Special Information Tone.

All announcements will have a mean level at the Openreach network interface in the range
–14 dBm to -28 dBm and will be repeated for between 1 and 5 cycles.

Glossary

BT	British Telecommunications plc
NTE	Network Termination Equipment
PSTN	Public Switched Telephone Network
SIN	Suppliers' Information Note
TIG	Technical Interface Guide

History

TIG 8 Issue 1	October 1998	First Issued as TIG 8.
Issue 1.0	February 2000	Document re-issued as SIN 350 with editorial changes.
Issue 1.1	May 2002	Description of 'Acknowledgement Tone' removed as not a PSTN derived tone. Document format updated to current SIN style.
Issue 1.2	July 2004	Interrupted Dial Tone added as an alternative name for Special Proceed Indication.
Issue 1.3	July 2005	Cadence for Special Call Waiting Indication corrected.
Issue 1.4	April 2014	Content review and editorial changes. Change SINet site references from http://www.sinet.bt.com to http://www.btplc.com/sinet/
Issue 1.5	April 2015	In table 1, reference to payphone (pay tone) has been removed
Issue 1.6	July 2019	Example updated in Section 3 from 0898 to 098xx.
Issue 1.7	July 2020	Example updated in Section 3 to replace reference to chargecard with Choose to Divert and delete reference to 0345.
Issue 1.8	September 2020	Changes to branding, from BT to Openreach including changes to reflect new Openreach SIN site and Openreach SIN email address
Issue 1.8	September 2021	Annual Review – no changes required – issue remains unchanged.
Issue 1.8	October 2022	Annual Review – branding and font changes only – issue remains unchanged.
Issue 1.8	October 2023	Annual Review – branding and font changes only – issue remains unchanged.
Issue 1.9	January 2025	Withdrawal notification added to Section 1.

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